

Early neurosonography: diagnosis of holoprosencephaly before 10 weeks using 3D HDlive Silhouette

Miguel J, Barreto EQS, Pagotto MVC, Carvalho MHB
Fleury Medicina Diagnostica, Sao Paulo, Brazil

Objective

To describe feasibility of early diagnosis of holoprosencephaly before 10 weeks using 3D HDlive Silhouette.

Methods

We describe a technique to diagnose alobar holoprosencephaly before 10 weeks using 3D HDlive Silhouette. The scans were performed using GE Voluson E10 equipment and a transvaginal RIC5-9-D probe. Three-dimensional blocs were acquired using Max mode with a 90 degree angle and the embryos were rendered using HDlive Silhouette mode, in which outlines of structures of interest can be delineated clearly and constructed with a simultaneous display of the inner core and structure.

Results

In controls the future lateral ventricles start to be visible as two lateral vesicles arising from the third ventricle from 8 weeks (CRL 15mm) onwards. From 9 weeks (CRL 20mm) lateral ventricles can be identified in all normal cases as two separate structures visible in transverse thick section of the head as seen from the top. In two cases a suspected monoventricle was identified with CRL=20mm and CRL=24mm. In both cases holoprosencephaly was confirmed at 12 weeks.

Conclusion

Early diagnosis of holoprosencephaly is possible from 9 weeks (CRL 20mm) onwards using transvaginal 3D HDlive Silhouette. A large prospective series is necessary to assess the rate of uninformative scans, detection rate, false positive rates and predictive values.